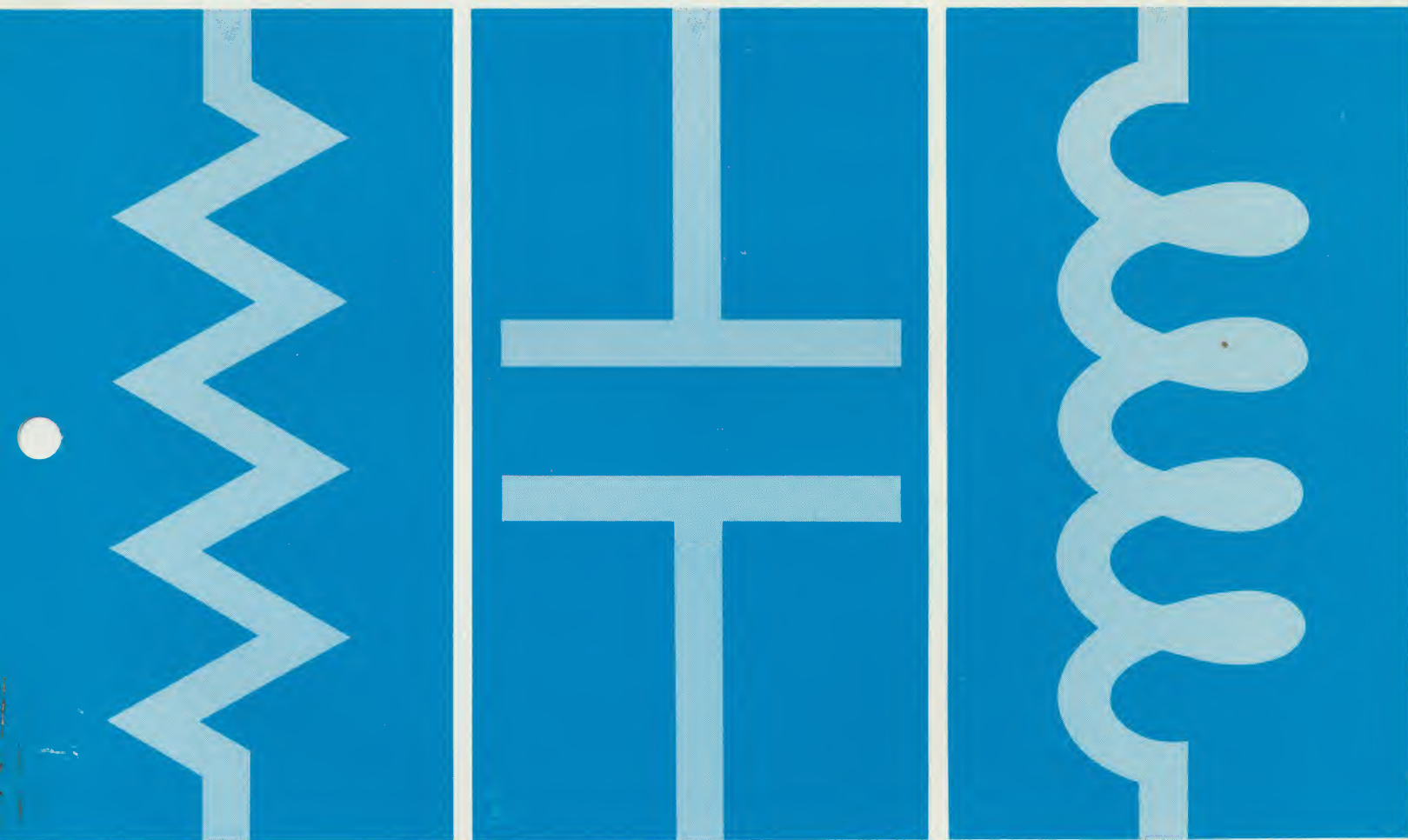


offers you **FAST DELIVERY, FACTORY PRICES** on top-reliability components from

CORNING

ELECTRONICS





These pages give you electrical and physical data on CORNING:

- **FIXED CAPACITORS**
- **RESISTORS**
- **TRIMMER CAPACITORS**
- **INDUCTORS**
- **GRID BOARDS**

We stock these CORNING components for your convenience. A phone call will bring you fast delivery, technical data sheets, or quick service and descriptive literature from a sales representative.

CORNING FIXED GLASS CAPACITORS

For coupling, decoupling, filtering, timing, switching, or computer circuits, CORNING capacitors give you ultrastable electrical performance. This stability is inherent in their fused glass and foil capacitive elements, as exemplified in the CORNING CYFR capacitor made for the Minuteman. The properties of the capacitor are entirely those of the closely controlled dielectric, and can't be changed by assembly methods or subsequent treatment. Typical properties: at 1 Kc and 25°C. dissipation factor is less than 0.001; at any given temperature, TC will not deviate from the curve by more than 5 PPM. Standard values from 0.5 to 10,000 pf are the same as standard decade values in applicable military specifications.

	TYPE AND MIL SPEC	MODEL	CAPACITANCE RANGE (pf)	VOLTAGE	NOMINAL DIMENSIONS Size in inches	WEIGHT IN GRAMS
CYFM	Fusion-sealed environment-proof performance at cost savings. Electrically and environmentally interchangeable with CYFR. MIL-C-11272B. 	CYFM10	0.5 to 200 220 to 300	500 300	$1\frac{1}{32} \times 1\frac{1}{64} \times \frac{5}{64}$	0.25 - 0.50
		CYFM15	220 to 510 560 to 1200	500 300	$1\frac{5}{32} \times 1\frac{7}{64} \times \frac{7}{64}$	0.75 - 1.25
		CYFM20	560 to 3500 3600 to 5100	500 300	$\frac{47}{64} \times \frac{27}{64} \times \frac{9}{64}$	2.50 - 4.00
		CYFM30	3600 to 6200 6800 to 10000	500 300	$\frac{49}{64} \times \frac{3}{4} \times \frac{9}{64}$	5.00 - 7.00
TYO	New printed circuit capacitor provides glass stability in a uniformly symmetric case. Eliminates shorting. Lead spacing: TYO-6—0.2", TYO-7—0.2", TYO-8—0.4", TYO-9—0.8". 	TYO-6	1 to 560	300	.300 x .200 x .115	.3 - .4
		TYO-7	561 to 1000	300	.300 x .300 x .115	.4 - .5
		TYO-8	1001 to 2700	300	.500 x .300 x .115	.7 - .8
		TYO-9	2701 to 10000	300	.900 x .700 x .195	4.9 - 5.4

STANDARD CAPACITOR VALUES*

CAP. (pf)	MIL EQUIV.	CAP. (pf)	MIL EQUIV.	CAP. (pf)	MIL EQUIV.	CAP. (pf)	MIL EQUIV.	CAP. (pf)	MIL EQUIV.	CAP. (pf)	MIL EQUIV.
0.5†	0R5C	7.5	7R5C	33	330J	130	131J	560	561J	2400	242J
1.0	1R0C	8.2	8R2C	36	360J	150	151J	620	621J	2700	272J
1.5	1R5C	9.1	9R1C	39	390J	160	161J	680	681J	3000	302J
2.2	2R2C	10	100C	43	430J	180	181J	750	751J	3300	332J
2.7	2R7C	11	110C	47	470J	200	201J	820	821J	3600	362J
3.0	3R0C	12	120J	51	510J	220	221J	910	911J	3900	392J
3.3	3R3C	13	130J	56	560J	240	241J	1000	102J	4300	432J
3.6	3R6C	15	150J	62	620J	270	271J	1100	112J	4700	472J
3.9	3R9C	16	160J	68	680J	300	301J	1200	122J	5100	512J
4.3	4R3C	18	180J	75	750J	330	331J	1300	132J	5600	562J
4.7	4R7C	20	200J	82	820J	360	361J	1500	152J	6200	622J
5.1	5R1C	22	220J	91	910J	390	391J	1600	162J	6800	682J
5.6	5R6C	24	240J	100	101J	430	431J	1800	182J	7500	752J
6.2	6R2C	27	270J	110	111J	470	471J	2000	202J	8200	822J
6.8	6R8C	30	300J	120	121J	510	511J	2200	222J	9100	912J
										10000	103J







*Standard Tolerances As Shown: C = ± 25 pf J = $\pm 5\%$

*Other Tolerances Available On Request: D = $\pm .50$ pf F = $\pm 1\%$ G = $\pm 2\%$ K = $\pm 10\%$

†0.5 pf does not apply to TYO capacitors

CORNING GLASS/METAL OXIDE FILM RESISTORS

Fuse a tin oxide coating into glass, cut a helix in the coating, attach leads and you have a simple, rugged, exceptionally reliable Corning resistor. Its TC is guaranteed from $\pm 0.015\%$ to $\pm 0.050\%$ depending on type. Overload change is less than 1%; noise level typically less than 0.1 $\mu\text{v/v}$. It is non-inductive above 280 ohms. Standard values from 1.00 to 9.76, except for C resistors whose values run from 10 to 91 on standard decade tables, are the same as standard decade values in applicable military specifications.

	TYPE AND MIL SPEC	MODEL/MIL MODEL	RESISTANCE (ohms)	WATTAGE	TOLERANCE
C	General purpose, low-cost film type. Prices and sizes comparable to carbon composition type, but with film resistor performance characteristics MIL-R-22684A (Navy) 	C07/RL07AD C20/RL20AD C32/RL32AD C42S/RL42AD C42	51 to 150K 10 to 470K 10 to 1 meg. 10 to 1.5 meg. 10 to 1.5 meg.	$\frac{1}{4}$ @ 70°C $\frac{1}{2}$ @ 70°C 1 @ 70°C 2 @ 70°C 2 @ 70°C	2%, 5% 2%, 5% 2%, 5% 2%, 5% 10%
N	Insulation coating. Typical load-life resistance change less than 0.5%. MIL-R-10509D, meets Char. B. New N55 meets MIL-R-10509D, Char. D. 	N55/RN55D N60/RN60B N65/RN65B N70/RN70B	51.1 to 150K 10 to 133K 10 to 499K 10 to 1 meg.	$\frac{1}{8}$ @ 70°C $\frac{1}{8}$ @ 70°C $\frac{1}{4}$ @ 70°C $\frac{1}{2}$ @ 70°C	1% 1% 1% 1%
N-20	Proven stability in 40,000 hrs. testing. Uninsulated. MIL-R-10509B, Char. X 	N12 N20/RN20 N25/RN25 N30/RN30	100 to 133K 10 to 500K 10 to 1.5 meg. 30 to 4.2 meg.	$\frac{1}{4}$ @ 70°C $\frac{1}{2}$ @ 70°C 1 @ 70°C 2 @ 70°C	1, 2, and 5% 1, 2, and 5% 1, 2, and 5% 1, 2, and 5%
NF	Glass encapsulation is fusion sealed. MIL-R-10509D, Char. G or B 	NF60/RN60G or B NF65/RN65G or B	100-200K 100-348K	$\frac{1}{8}$ @ 70°C $\frac{1}{4}$ @ 70°C	1% 1%
S	Fixed-film type for high-temperature operation. Silicone baked lacquer. MIL-R-11804D, Char. P. 	S20/RD60P S25/RD65P S30/RD70P	10 to 500K 10 to 1.54 meg. 30.1 to 4.22 meg.	130°C $\frac{1}{2}$ 1 2 25°C 1 2 4	1, 2, 5, 10% 1, 2, 5, 10% 1, 2, 5, 10%
R	Power type, essentially noninductive in high-frequency operations. MIL-R-11804D. 	R31/RD31P R33/RD33P R35/RD35P R37/RD37P R39/RD39P	10 to 70K 19.6 to 150K 19.6 to 301K 19.6 to 500K 30.1 to 1 meg.	7 @ 25°C 13 @ 25°C 25 @ 25°C 55 @ 25°C 115 @ 25°C	2, 5, 10% 2, 5, 10% 2, 5, 10% 2, 5, 10% 2, 5, 10%

STANDARD VALUES*

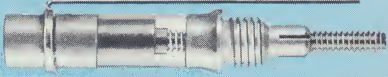
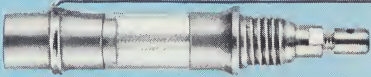
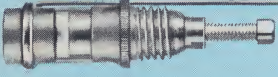
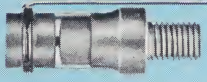
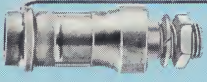
N, N INSULATED, NF, S, R, RESISTORS						1, 2, and 5% Tolerances						C RESISTORS	
1%	2%	5%	1%	2%	5%	1%	2%	5%	1%	2%	5%	±2% & ±5%	±10%†
1.00	1.00	1.00	1.78	1.78	1.78	3.16	3.16	3.16	5.62	5.62	5.62	10	10
1.02			1.82			3.24			5.76			11	—
1.05	1.05		1.87	1.87		3.32	3.32		5.90	5.90		12	12
1.07			1.91			3.40			6.04			13	—
1.10	1.10	1.10	1.96	1.96	1.96	3.48	3.48	3.48	6.19	6.19	6.19	15	15
1.13			2.00			3.57			6.34			16	—
1.15	1.15		2.05	2.05		3.65	3.65		6.49	6.49		18	18
1.18			2.10			3.74			6.65			20	—
1.21	1.21	1.21	2.15	2.15	2.15	3.83	3.83	3.83	6.81	6.81	6.81	22	22
1.24			2.21			3.92			6.98			24	—
1.27	1.27		2.26	2.26		4.02	4.02		7.15	7.15		27	27
1.30			2.32			4.12			7.32			30	—
1.33	1.33	1.33	2.37	2.37	2.37	4.22	4.22	4.22	7.50	7.50	7.50	33	33
1.37			2.43			4.32			7.68			36	—
1.40	1.40		2.49	2.49		4.42	4.42		7.87	7.87		39	39
1.43			2.55			4.53			8.06			43	—
1.47	1.47	1.47	2.61	2.61	2.61	4.64	4.64	4.64	8.25	8.25	8.25	47	47
1.50			2.67			4.75			8.45			51	—
1.54	1.54		2.74	2.74		4.87	4.87		8.66	8.66		56	56
1.58			2.80			4.99			8.87			62	—
1.62	1.62	1.62	2.87	2.87	2.87	5.11	5.11	5.11	9.09	9.09	9.09	68	68
1.65			2.94			5.23			9.31			75	—
1.69	1.69		3.01	3.01		5.36	5.36		9.53	9.53		82	82
1.74			3.09			5.49			9.76			91	—

*Standard resistance values are obtained from the decade table by multiplying by multiples of 10. As an example, 1.33 can represent 13.3 ohms, 133 ohms, 1.33k, 13.3k, 133k, 1.33 megohm.

*Values not listed are considered non-standard.
†C42 only.

CORNING TRIMMER CAPACITORS

For amplifiers, communications equipment, oscillators, and computers, the special glass, special metallizing, and special hardware in CORNING trimmers give you guaranteed Q of 500 at 50 Mc, no derating to 125°C., temperature coefficient under ± 100 PPM/°C., high dielectric strength, high insulation resistance — 10^6 megohms or higher, and top corrosion resistance. Unique direct traverse design in DT and Mini-Trimmer types moves the tuning core smoothly without rotating, provides top precision and excellent shock and vibration resistance.

TYPE	MODEL	CODE	RANGE pf		TC AT 1 MC IN PPM/°C.	DC VOLTS	DIMENSIONS (INCHES)	
			MIN.	MAX.			Behind-panel $\pm 1/32$	Front-of-panel
ROTARY TRIMMER CAPACITORS Conventional tuning devices in split bushing and precision types for high performance at low cost. 	1/4" Split Bushing	680071	1.0	8.0	+50 \pm 50	500	1 1/32	1 3/16
		680072	1.0	12.0	+50 \pm 50	500	1 5/32	1 11/32
		680073	0.5	3.0	+50 \pm 50	500	1 3/16	1 3/16
	3/16" Split Bushing	680026	0.75	3.0	+50 \pm 50	500	1 9/32	4 9/64
		680076	0.70	4.0	+50 \pm 50	500	5/8	4 9/64
		680059	0.50	4.0	+50 \pm 50	500	3/4	5 9/64
DIRECT TRAVERSE TRIMMER CAPACITORS The unique direct traverse design gives precision linear tuning, breakage-free, in pan and wire terminal types. In all DT types, freedom from capacitance reversal is guaranteed within the range of the unit. *Meet MIL-C-14409. 	Pan Terminal	682024	0.5	3.0	+50 \pm 50	500	1 3/16	7/8
		682054	1.0	7.5	+50 \pm 50	500	1 3/16	7/8
		682064	1.0	8.0	+50 \pm 50	500	1 1/32	7/8
		682049	1.0	12.0	+50 \pm 50	500	1 5/32	1 3/32
		682011	0.5	3.0	+50 \pm 50	500	1 3/16	7/8
		682007	1.0	8.0	+50 \pm 50	500	1 1/32	7/8
		682008	1.0	12.0	+50 \pm 50	500	1 5/32	1 3/32
	Wire Terminal	682095	1.0	8.0	+50 \pm 50	500	1	2 9/32
		682039/PC 36H030*	.5	3.0	+50 \pm 50	500	3/4	1 1/8
		682018	1.0	7.5	+50 \pm 50	500	2 5/32	2 7/32
		682040/PC 36H080*	1.0	8.0	+50 \pm 50	500	1 1/32	1 1/8
		682041/PC 36H120*	1.0	12.0	+50 \pm 50	500	1 5/32	1 7/64
PRECISION DT TRIMMERS Direct traverse in units designed for use where behind-panel length is critical. 		682081	.8	4.5	\pm 50	1000	1 1/32	5/8
		682082	.8	8.5	\pm 50	1000	1 7/32	4 7/64
		682083	.8	12.0	\pm 75	1000	2 3/32	2 5/32
		682084	1.0	18.0	\pm 100	1000	1 1/64	1 5/16
		682085	1.0	30.0	\pm 100	1000	1 9/32	1 7/32
MINI-TRIMMERS Direct traverse design in minimum size—panel mount and two printed circuit types. 	Panel Mount	682106	1.0	4.5	\pm 50	1000	.433	1/32
		682107	1.0	8.5	\pm 50	1000	.625	3/32
		682108	1.0	12.0	\pm 75	1000	.812	5/32
		682109	1.0	18.0	\pm 100	1000	1 1/32	3/16
	Printed Circuit, Wire Terminal	682101	1.0	4.5	\pm 50	1000	.433	1/4
		682102	1.0	8.5	\pm 50	1000	.625	7/16
		682103	1.0	12.0	\pm 75	1000	.812	5/8
		682104	1.0	18.0	\pm 100	1000	1 5/64	7/8
	Printed Circuit, Tab Terminal	682111	1.0	4.5	\pm 50	1000	.433	1/4
		682112	1.0	8.5	\pm 50	1000	.625	7/16
		682113	1.0	12.0	\pm 75	1000	.812	5/8
		682114	1.0	18.0	\pm 100	1000	1 5/64	7/8
	Panel Mount, Insulated Bushing	682116	1.0	4.5	\pm 50	1000	1 5/32	1/32
		682117	1.0	8.5	\pm 50	1000	2 1/32	3/32
		682118	1.0	12.0	\pm 75	1000	2 7/32	5/32
		682119	1.0	18.0	\pm 100	1000	1 1/8	3/16
SEALED MINI-TRIMMERS Direct traverse and size advantages of the Mini-Trimmer in hermetically sealed units for severe environments. 	Panel Mount	682186	1.0	4.5	\pm 50	500	.500	1/4
		682187	1.0	8.5	\pm 50	500	.650	7/16
		682188	1.0	12.0	\pm 75	500	.840	5/8
		682189	1.0	18.0	\pm 100	500	1.140	7/8
	Printed Circuit	682181	1.0	4.5	\pm 50	500	.500	1/16
		682182	1.0	8.5	\pm 50	500	.650	1/8
		682183	1.0	12.0	\pm 75	500	.840	5/32
		682184	1.0	18.0	\pm 100	500	1.140	1/4

CORNING INDUCTORS

For applications from 10 to 250 Mc and above, the special glass and fired-in metallizing of Corning inductors give you high Q values—from 120 to 250—and zero drift performance. Because the silver metallized conductors are fused into the glass dielectric, they resist great shock, vibration, and temperature cycling. They can't shift on the coil form, won't fail even under salt spray. TC is about +10 PPM/°C. from -55°C. to +125°C. You get low distributed capacitance, high self-resonate frequency, from over 150 Mc to over 400 Mc. In addition to the Standard types listed here, .275 and .275 Variable inductors also are available.

STANDARD INDUCTORS

High reliability, high stability, and rugged construction in all 27 standard types.



C.G.W. CODE NO.	NOMINAL VALUE	MIN. Q AT MEASURED FREQUENCY 190A Q METER	C.G.W. CODE NO.	NOMINAL VALUE	MIN. Q AT MEASURED FREQUENCY 190A Q METER
681150	.05	180 @ 140 MC	681164	.37	160 @ 60 MC
681151	.06	180 130	681165	.41	160 55
681152	.07	180 120	681166	.46	160 50
681153	.08	180 110	681167	.55	150 50
681154	.09	180 90	681168	.63	140 50
681155	.10	180 90	681169	.75	130 45
681156	.12	180 80	681170	.80	130 45
681157	.13	175 80	681171	.95	130 45
681158	.16	175 80	681172	1.10	120 40
681159	.18	175 70	681173	1.20	120 40
681160	.21	170 70	681174	1.30	120 35
681161	.25	170 70	681192	1.60	120 30
681162	.29	170 70	681193	2.00	120 30
681163	.33	170 70			

NOTES:

1. Operating Temperature... -55°C to +125°C
2. Temperature Coefficient... Approx. +10 PPM/°C
3. Tolerance, Std. ... ±10%; ±5% Available above .25 Un.
4. Current Rating... One Ampere Max.
5. Drift... Zero, Under Shock, Vibration, and Temperature Cycling

CORNING INDUCTOR KITS



Provide 10 inductor models, plus four tuning cores, accessories, and a technical manual which includes performance curves. Gives a range of top-stability inductors for testing new circuits.

CORNING GRID BOARDS

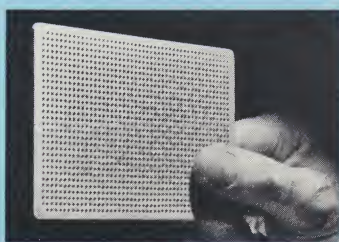
*Trademark

A simple, three-step process converts a Corning FOTOCERAM* grid board into a printed circuit in just 15 minutes. Apply a tape or chemical resist to the copper-plated grid board. Etch away the excess copper. Rinse the board and strip the resist.

The FOTOCERAM base is a solid piece without laminations which might bend, twist, or warp under high temperatures. Its glass-ceramic composition provides excellent

plating, high strength, temperature resistance to 250°C., zero moisture absorption, nonflammability, and rigid dimensional stability.

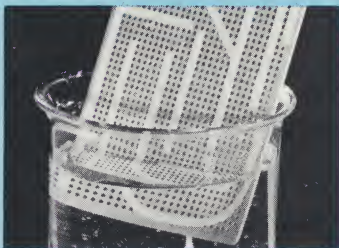
The board has 0.052 plated holes spaced 0.1 inch apart on center. Corner-mount or plug-section boards are currently available in two sizes, both 1/16" thick: three by five, and six by eight inches. They can be trimmed to any desired shape with a simple glass cutter.



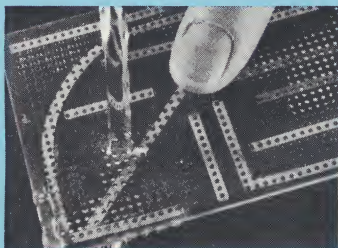
- 1 New CORNING grid boards are always ready holed and coppered to give you maximum design flexibility.



- 2 Lay out the circuit run you want on one or both sides with tape or chemical resist.



- 3 Immerse in a copper etchant to remove excess copper.



- 4 Rinse. That's all there is to making a board ready for use.



CORNING GRID BOARD KITS

These kits include everything needed to build a printed circuit quickly and easily. A complete kit provides FOTOCERAM grid boards, masking tape and a chemical resist ball point pen, etchant chemicals. The kit container itself is used as the etchant solution tray. A second kit version includes everything but the grid boards.

More information or data sheets are available
from your CORNING DISTRIBUTOR, or write
CORNING ELECTRONICS
a division of Corning Glass Works, Electronics
Drive, Raleigh, N. C.

